

U.S. DEPARTMENT OF LABOR  
MINE SAFETY AND HEALTH ADMINISTRATION

Gott Road  
Princeton, West Virginia 24740



HS 298

*File*  
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JUL 07 1978

M. E. S. A.

Richlands, Virginia 24641

July 6, 1978

MEMORANDUM FOR: JACK F. MCMANUS  
Subdistrict Manager

FROM: S. E. GASPERSICH  
Coal Mine Safety Specialist

SUBJECT: Report of Investigation of Coal Outbursts, Beatrice  
Mine, Beatrice Pocahontas Company, Keen Mountain,  
Buchanan County, Virginia, May 30, June 7, and 13, 1978.

*#6 Unit*  
A series of coal outbursts occurred in No. 1 south section of the subject mine. The first resulted in no injuries or damage and occurred about 10:10 p.m., May 30, 1978. Considerable damage to the continuous mining machine and minor injuries to Cecil Keene, section foreman, and Herman Hart, continuous mining machine operator, resulted from the coal outburst which occurred about 10:15 a.m., June 7, 1978. The outburst which occurred about 10:15 p.m., June 13, 1978 resulted in slight damage to the continuous mining machine; however, Carl Thomas, continuous mining machine operator, sustained a mouth injury which required suturing and facial bruises and lacerations when he was dislodged from his position at the controls.

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The writer was notified promptly after the incidents and investigated them during the same and/or following shifts. The first outburst occurred in the left chain pillar immediately inby survey station No. 8483 (sketch No. 1). The original pillar was larger than normal and was being split in accordance with recommendations. There was no mining activity in the vicinity when the outburst occurred. Elijah Tiller, section foreman, was near the tailpiece and heard the noise when the outburst occurred and ascertained that there were no adverse effects. During the investigation it was determined that the pillar remnant was destressed and subsequent mining was observed to be normal. It was recommended that pillar A (sketch No. 1) be attacked promptly so as to reduce that odd-sized pillar well in advance of the retreating pillar line and this development was expedited.

The second outburst occurred in the right chain pillar immediately inby survey station No. 8451 (sketch No. 2). Two shuttle cars of loose coal were loaded by Hart in the face area of the bump cut preparatory to mining the solid face. After mining two shuttle cars of coal from the

right (canvas and gob) side, Hart positioned the machine after shuttle car departure to square the face. The outburst was intensive to the extent that the machine was displaced laterally 24 inches, and Hart and Keene were flung from their positions and sustained numerous bruises. Keene remained on duty and Hart was taken to the surface for examination and treatment. The machine required considerable repair work and parts replacement and mining was resumed June 12, 1978. The force was expended entirely in the face area and the ribs of the pillar were not affected. It was opined that the excessive stored energy in the pillar was dissipated by the outburst. The writer observed the two subsequent cuts being mined and mining was normal.

Generally, by the time a pillar is in a point position along the pillar line that pillar usually has been penetrated by two cuts; however, adverse roof along the entry nullified the approach to achieve this and ventilation requirements did not permit a greater depth from the crosscut approach.

The third outburst occurred in the left chain pillar immediately inby survey station No. 8451 (sketch No. 3). In view of the preceding incident it was deemed advisable to make a cut from the crosscut before completing the split from the entry so as to afford more protection to the operator in the event of an outburst. Thomas initiated the cut when the outburst occurred (sketch No. 3). The machine was moved to a position parallel with the crosscut and Thomas was flung about in the cab to the extent that he suffered from injuries as noted above. Thomas was taken to the surface to receive medical attention. The machine required minor repair and was made serviceable for the next shift. Considerable force was manifested by the void and quantity of coal expelled. The loose coal was loaded as recommended and the equivalent of a bump cut was made without incident. It was further recommended that the bump cuts in the pillars outby those bordering the gob be holed through before pillaring was resumed rather than follow the plan involving bump cuts which had been successful previously. The designated pillars were split and the inby pillars were recovered without incident.

Topographic maps reveal that overburden ranges from 1,750 to 2,000 feet in thickness in the area being mined. To date this is the least thickness of cover over the coal in No. 1 south section. Physical conditions in the section have been constant except that the floor may be more resistant to failure in spot locations. A resident in the surface area proximate to the section reported a tremor at 10:10 p.m., June 13, 1978 and a mine official plainly perceived indication of stress release about 2,000 feet away from the section when the outburst occurred May 30, 1978. This may indicate shock waves which are ascribed to the



failure of a strata below a massive strong formation which yields momentarily but does not break thereby overloading pillars in the abutment zone immediately before stability is reestablished. Pillars are to be split out by the pillar line.

Mining will be confined to development of a barrier pillar before pillar recovery is resumed (sketch No. 4).

Attachments

cc: Herschel H. Potter



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LOST

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45

Scale 1" = 100'